National Weather Service
Interactive Voice Response System

User Documentation

NWSIVRv2.0

National Weather Service
Interactive Voice Response System

Mark A. McInerney
DOC/NOAA/NWS
Weather Forecast Office - Portland, Oregon

NWSIVRv2.0
September 15, 2000

Mark.McInerney@noaa.gov

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

1. INTRODUCTION

NWSIVR was developed under the direction of National Weather Service Western Region Headquarters to maintain local and remote telephony support for weather forecast offices throughout the region and throughout the country. This system serves as a full replacement to telephony procedures formerly administered by the Dalke system and not qualified under the NOAA weather radio CRS program. NWSIVR possesses full capability to manage local phone lines where residents are provided a menu from which to select NWS products and other related information. Callers can access audio supported weather data from a touch-tone phone or via the Internet through WFO websites. Another feature dispatches audio products to external telephony devices, such as an Interalia system, therefore providing a means of routine data population at these locations. Text-to-Speech (TTS) technology furnishes the audio support by converting text based weather information, dispensed from an external source such as AWIPS. NWSIVR also supports manually recorded products, which are then processed in accordance to a product definition found in the IVR database. In addition, NWSIVR contains the ability to fax, page or phone desired locations such as emergency management centers, spotters or weather service employees.

NWSIVR is a fully automated system, operating on a windows NT workstation with an integration of supporting commercial software (COTS). This system, unlike its predecessor CRSIVR, was developed to run on the WFO office LAN outside the AWIPS firewall.

2. REQUIREMENTS

NWSIVR is a standalone system, with purchasing agreements setup through Government Micro Resources (GMR). To inquire about or to purchase a new NWSIVR system contact Bob Keigley or Joe Webb at the provided numbers.

GMR Contacts (www.gmri.com):

       Bob Keigley   703.330.1199
       Senior VP for Computer/Telephony Integration Division   rkeigley@gmri.com

       Joe Webb   703.330.1199
       Global Account Manager   jwebb@gmri.com

NWSIVR connects to an office LAN, outside the AWIPS firewall which differs from the CRSIVR configuration. Other items needed, but not included in the CRSIVR package, are: multimedia speakers and a microphone.

Dedicated analog based telephone lines, with hook flash capabilities, need to be used for the NWSIVR system. In other words, using phone lines through the office phone system will prevent IVR from working correctly. To receive or to check if a line maintains flash hook functionality contact your local phone company. There is typically no charge to have this feature added to a phone line, however it may not be present without requesting it. Hook flash compliance will allow

blind transfer functionality for direct access to operational personnel and simultaneously freeing occupied phone lines for continuous use. Unfettered access to phone lines increase throughput allowing greater use of system resources. Also, this functionality is used in the dialout software to open and close phone lines to properly carry out this task.

Finally, since NWSIVR will not have access to the CRS database text files and audio products will need to be supplied to IVR. Your office can determine the best way to supply this information, however a program called ftp_IVR was developed to interact with transferNWR and accomplish this task. For more information on ftp_IVR go to the IVR web page located at: http://www.wrh.noaa.gov/portland/nwsivr/nwsivr.html.

3. DESIGN CONSIDERATIONS

Original design specifications did not require NWSIVR to be utilized for the dissemination of critical weather products. Because of this, the WatchDog software processes unprioritized products on a timed cycle. This configuration is less effective for warning dissemination, but well within reasonable guidelines for processing non-critical weather information. Despite this restriction, NWSIVR is fully capable of supporting any product defined in the NWSIVR database with a continuous data feed from an outside source such as AWIPS.

To be portable and scalable several off the shelf products were incorporated, and scripting languages such as Perl and TCL/TK were utilized. COTS products used are highly recognized and affiliated with industry leaders throughout the IVR community. This software includes the following:

- AcuVoice synthetic speech technology AV2001 v3.02 (TTS).
- ISI Audio Toolbox Digital Processor & Converter Software v3.0 used to convert audio files for telephony processing.
- APEX Voice Communications OmniVox v3.2.1 graphical user interface telephony software.
- Dialogic hardware boards

Finally, to support production assembly, Government Micro Resources (GMR) was contracted. GMR engineers developed the robust dialout capabilities run under the OmniVox telephony software.

4. NWSIVR FEATURES

NWSIVR uses graphical user interfaces for system management. This section was created as a basic overview of each feature and will serve as a reference point for the rest of the document. Each reference number found in figure 1 will have its own description categorized by the section number, followed by the reference number. For example, the description for reference number 4 in figure 1 (the *process window*) can be found in section 4.4. of this document.

Figure 1 - ADVcrsta.tcl, main NWSIVR graphical interface. (Actual file location c:\crstav2.0\bin\ADVcrsta.tcl)

4.1   Toolbar: File

4.1.1   Incoming Queue

This function opens the directory *c:\crstav2.0\db\intmp* where new products arrive into
NWSIVR. Valid product types include CRS formatted text or *wav* based audio product defined in
the IVR database. If a product does arrive into this directory and is not recognized in the IVR
database it will sit in this directory until manually removed. Further information on product
ingesting can be found in section 6 of this documentation.

4.1.2.   Dialout Queue

This function opens the directory *c:\crsta\db\dialout* displaying each product queued for
transmission. There will always be a file named "0000" in this directory.

4.1.3   Exit NWSIVR Controls Interface

4.2.   Toolbar: Settings

4.2.1.   Site Information

Site Information is basically a registration process. This information is minimally used in
version 2, however it will help manage IVR systems, locations, and potential problems.

4.2.2. WWW Configuration

Selecting *WWW Configuration* will open a GUI to input remote server information. This information is then used in the ftp processes for selected audio products - see figure 2. Assigning a product for ftp to a selected server is described in section 4.8.

Figure 2 - Remote Server Information Interface

Add a Server:

    1. Enter numeric IP address in the provided entry box.
    2. Enter the remote path where files will be uploaded to.
    3. Enter the username and password for access into server.
    4. Once all the correct information has been entered select the *Add New* button.

Remove/Edit a server

    1. With a left mouse click, select the server you wish to remove or edit.
    2. Select the *Edit Item* button to bring the information into entry boxes.

> **Note:** You can combined steps 1 and 2 by double clicking a left mouse button on the desired server.

    3. To remove the selected server click the *C* button to clear entry boxes. To edit server information see step 4.

> **Note:** When pulling a server from the server list by either a double left mouse click or by highlighting the server and selecting edit item, the server will be pulled from the database at that moment. Therefore it is important to place this information back into the database by selecting Add New otherwise any changes will be lost.

    4. Edit server information in the entry boxes and then select the *Add New* button to place data back into the IVR database.

4.2.3. TTS Voice Dictionary

The *TTS Voice Dictionary* option will launch the text-to-speech dictionary software providing a platform to edit word pronunciation. See section 7 for functionality.

4.2.4. TTS Test Pad

TTS Test Pad is software to test word or phrase pronunciations. To use this software simply type any word or phrase you wish to hear and then select *play* under the menu option *mode*.

4.3. Toolbar: Help

There are two options under the Help menu. First, is *Online Help*. Selecting *Online Help* will connect you to the NWSIVR web site located at:
www.wrh.noaa.gov/portland/nwsivr/nwsivr.html.
The intention of this site is to provide a centralized location for documentation, suggestions, software downloads and much more.

4.4. Process Window

The process window will display useful information such as: Process information, WatchDog status, error messages and much more. This display is not automatic, so to check the latest information double click with a left mouse button anywhere in the window to update the interface. If there is nothing new to display the window will appear unchanged.

4.5. Refresh Process Window

This button will refresh the process window, which was a necessary step since it will not update automatically. Another way to update the process window is to double click with a left mouse button any where inside the window. However, if there is nothing new to display the window will appear unchanged.

4.6. Online Help

The question mark button will connect to the NWSIVR homepage through Netscape. This site was created to help administrators with an on going support page. The intention is to have a central location where questions can be answered, documentation can be supplied, and upgrades can be found. The web address accessed is: www.wrh.noaa.gov/portland/nwsivr/nwsivr.html.

4.7. APEX OmniVox Telephone Software

Figure 3 - OmniVox Telephony Interface

The third party software providing telephony functionality can be accessed by selecting the *OmniVox Telephony Tools*. From the OmniVox software an administrator will be able to create a local phone tree, manage phone line assignments for incoming & outgoing calls, run phone line statistics, create canned phone tree messages and much more. For complete functionality of the OmniVox software please consult the APEX users documentation, although this documentation does attempt to summarize commonly used features.

4.7.1. Building a Phone Tree Menu Application

Building a local phone tree is a graphically based "Drag & Drop" process. The steps below are intended to walk you through the initial process of creating this new tree. For a complete description of every possible function used in creating a tree consult the APEX users documentation.

Create a new phone tree follow these steps:

1. Launch the builder application by selecting the *OmniVox Telephony Tools* button on the NWSIVR controls interface - reference 7, figure1.

2. On the OmniVox button bar click 5th button from left to right. It should look like

3. When prompted enter a Application Name and 3 character Application Code. Write down this information in a secure place for future reference. Leave all other entry boxes blank or as default. When finished select *OK*.

4. A new interface should then open with a title based on your application name and a *.project* extension - see figure 4.

5. To then open the "Drag & Drop" portion of this software, double click on your created application name located in the left panel of the project you created. This should be 3 places from the top. Figure 4 is an example of this and in this figure *TEST* is the project application name which should be the same location of your defined project name.

6. After double clicking on your project name, a window similar to figure 5 should open. At this point you are ready to create your phone tree and it may be time to explore the provided APEX documentation. If help is needed to create this tree please don't hesitate to contact me at Mark.McInerney@noaa.gov. A quick phone call may save a lot of development time.
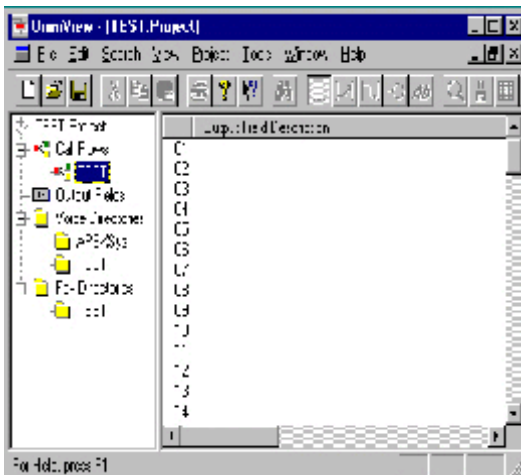
Figure 4 - New phone tree project interface
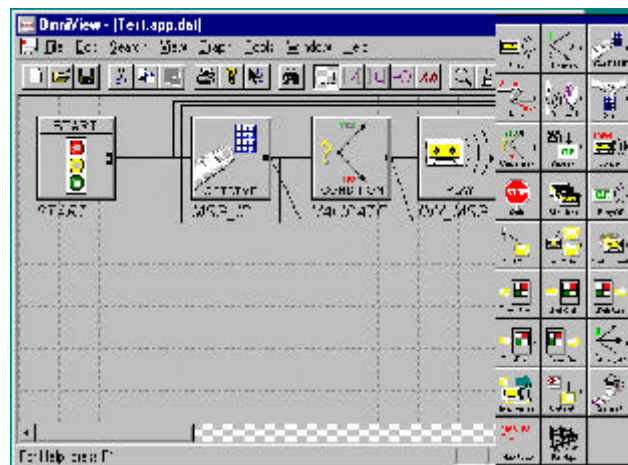
Figure 5 - New phone tree Call flow interface

Helpful tips when creating a phone

1. Consult the phone tree examples which are used at the Portland, Oregon forecast office.
   • A short summary of each tree can be found in Appendix A and Appendix B.

• To view these examples in OmniVox the file name & locations are:
  c:\usr\APEX\Appdata\Appgen\MAIN.app.dat
  c:\usr\APEX\Appdata\Appgen\EUG_SLE.app.dat
To actually open and view either phone tree in the OmniVox software see section 4.7.2 *Edit/Open an Existing Phone Tree Menu Application.*

2. Actually create a new phone tree. Don't do a *save as* on existing trees like MAIN or EUG_SLE. It's alright to alter an existing phone tree to meet the needs of your office, however changing the name of an existing application will only change the name and not the underlying software.

3. Don't mess with the OUTDIAL.app.dat phone tree.

4. When building a phone tree application it is important that the first icon after *start* be ***setvdir*** - see Appendix B. Processed products, used by the OmniVox software, are stored in the *c:\usr\APEX\voice\main* directory. The *setvdir* option will force the software to look in this directory for all audio files associated to the call flow.

5. A message is either a canned message to help a caller navigate through the phone system (Appendix C) or a data product. To place a message product in a play or branch record right click and enter the corresponding message number you want played to the caller. For more information on message numbers see section 4.7.3 of this document.

4.7.2.   Edit/Open an Existing Phone Tree Menu Application

To edit or to simply open an existing phone tree application follow these steps:

1. Launch the OmniVox software by selecting the *OmniVox Telephony Tools* button on the NWSIVR controls interface - reference 7, figure 1.

2. On the OmniVox button bar click 6th button from left to right. It should look like

3. In the interfaced launched after selecting *case*, select *cancel.*

4. You should be at the phone tree application interface. To open the file you desire select **File -> Open**, and then select your application found in the *c:\usr\APEX\Appdata\Appgen* directory. Two example phone tree can be found in this directory, *MAIN.app.dat* and *EUG_SLE.app.dat.*

4.7.3.   Message Number Structure

A message number is how NWSIVR knows what message to play and when to play it as a caller navigates through a phone tree. This number is also used to define a product in the IVR database. Basically a message number is a file name that represents an audio VOX file. There are two type of audio files differentiated by a message number; canned and data files. Canned

message numbers are assigned when creating the message itself. For further   information on creating canned messages see section 4.7.6. Message numbers are assigned to data files (NWS products) through the IVR database manager described in section 4.8.

What to know about message numbers:

1. All numbers should be range between 1000-9999. Numbers outside this range are restricted for system software.

2. Message numbers between 1000-9000 are reserved for data products. E.g. NWS forecast products.

3. Message numbers 9000-9999 are reserved for canned messages to navigate a caller through a phone tree - see Appendix C.

4. Audio files used operationally are stored by their message number and are located in the *c:\usr\apex\voice\main* directory.
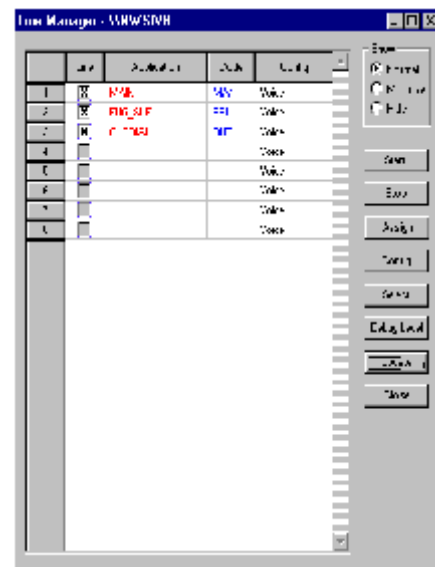
4.7.4. 📧 Activating Phone Lines / Line Manager

Activating phone tree and/or dialout procedures are initiated through the OmniVox line manager. To launch this software follow these steps.

1. Launch the OmniVox software by selecting the *OmniVox Telephony Tools* button on the NWSIVR controls interface - reference 7, figure 1.

2. On the OmniVox button bar click the 2nd button from left to right. It should look like 📧

– Associate a phone tree with a specific phone port.

Figure 6 - OmniVox Line Manager

3. Select the box which will associate an application to a port or ports with a dedicated telephone line connection. Remember lines connected to these ports are expected to be analog, dedicated to this system, with an active hook flash feature. If there is question about any of these items, check with your local phone focal point or call the local phone company.

Connecting a phone line to the IVR box.

Facing the back of the IVR computer, phone line connection are numbered from right to left beginning with 1. For example in an 8 port system phone lines would be assigned as shown in figure 7.

Figure 7 - Port numbering

---

4. Enter the *application name* of the developed phone tree to associate it with the selected phone line.

5. Enter the three character *application code* associated with the application name.
     # This code was defined when the application was initially created.

6. Leave the Config section as voice

7. Select the *update* button to save application definitions.

– Activate defined phone line

8. Describe how to activate each phone line: Normal, Hide, or Minimize.

9. Select the *start* button. This will activate all selected phone lines.

10. Close the line manager interface by selecting *Close*.

11. Close the OmniVox interface (if still open); **File -> Exit.**

Provided application name & code information.

Applications Name	**Code**
MAIN	MA1
EUG_SLE	ES1
OUTDIAL	OUT

4.7.5.   Dialout Function

Dialing remote sites for the purpose of updating an external telephony device, such as an Interalia system, is strictly optional. The dialout program runs through the OmniVox telephony software, specifically under the line manager. Dialout procedures need a dedicated analog phone line with a hook flash capabilities. To use this feature assign a single telephone port to the application name OUTDIAL and code OUT within the line manager interface. For more instruction on how to use the line manager please reference section 4.7.4 of this documentation.

For offices that have heavy dialout needs it's entirely possible to assign more than one port as an OUTDIAL procedure. Each port is setup in the same way as described above. In most cases assigning one port is sufficient. Having more than one line designated for a dial out will only reduce the number of lines available for incoming calls. Preliminary estimates indicate that fifty items simultaneously ready for dialout processing will be completed in just under one hour with a single dialout connection.

4.7.6. ![icon] Recording Canned Messages

Complete functionality of the Speech Editor is best described on page 5-1 of the OmniVox User's Manual. However this section does provide the necessary steps to make a voice prompt recording.

<u>Creating a voice prompt message</u>:

– Establishing a connection to make recording:

1. Launch the OmniVox software by selecting the *OmniVox Telephony Tools* button on the NWSIVR controls interface - reference 7, figure 1.

2. On the OmniVox button bar click the last button on the right. It should look like ![icon]

3. If not already connected, place an analog based telephone line in a Dialogic port in the back of IVR. For line numbering see figure 7.

4. Use a telephone to call the line on which you will do the voice recording. (Step 3)

5. Once you hear ringing on the phone you are calling from, select *line*, then *open* on the Speech Editor menu bar.

6. In the Set Line Number dialog box, enter the line number that corresponds to the telephone line you are using and then select OK to answer the call.

> **Note**: It may take a couple attempts to get steps 4-6 to work. The software doesn't always answer on the first try.

– Recording Your message:

1. Select **New** from the **File** menu.

2. Click on the record button. ![icon]

3. At the tone, speak directly into the telephone hand set. Your message will be recorded.

4. To stop recording or playing back your message at any time click on stop. ![icon]

5. At this point selecting play to verify a good recording may be desired. ![icon] Otherwise skip to step 6.

6. Save the recorded voice prompt by selecting **Save As** from the **File** menu.

> **Note**: Since message boxes used to support dynamic weather information, the speech editor is only needed to record canned messages. It's important to restate that all canned recordings must contain a message number between 9000 and 9999. It may be a good idea to make a note of the message in text form since this is a numeric file name.

4.7.7. ⚙🖩 Phone Line Statistics

Statistical information is a feature provided by the OmniVox software. Page 3-50 of the OmniVox User's Manual goes into greater detail pertaining to this function. This feature will only work for incoming phone calls and not with the dialout process.

4.8. NWSIVR Database Management

Defining what to do with a product that arrives into IVR is accomplished through the *IVR Database Manager*. Here is where the product name, IVR message number, dialout information, and remote server descriptors can be specified. At minimum a product name and message number must be identified. The product name provided should match exactly to the file name that

Figure 8 - NWSIVR Database Manager Interface

arrives into IVR*. A message number will automatically be assigned if "Automatic" is present in the IVR Msg number entry box. If a specific number is desired, that number can be entered manually. Take special care when assigning a message number
since minimal error checking is performed and duplicates assignments are not alerted.
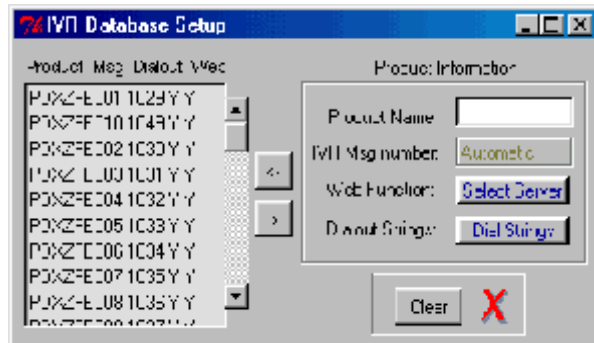<div align="center">* Do not enter any Dot extensions when defining your product name (.wav or .pt)</div>
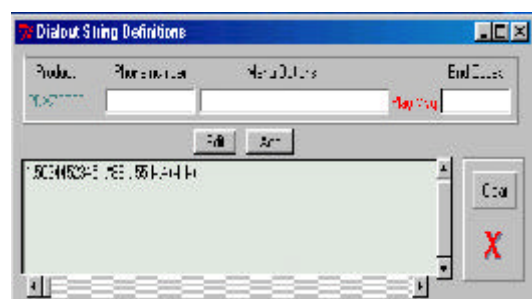
Add a New Product

1. Launch the Database Manager by selecting Database Options from the NWSIVR Controls interface - reference 8, figure 1.

2. Enter a product name in the Product Name dialog box. Eg. PDXZFP001

3. Select an IVR message number, between 1000-8999 or type "Automatic" in the provided entry box to have IVR assign a message number.

4. (Optional) Select the *Select Server* button to define a server location to ftp an audio file when created (Local news paper, office web site etc...).
   - From the provided list of servers double click on one or more servers to make selection - see figure 9 for Remote Server Selection interface example.
   - To remove a server in the Current Server Selection window, double click a left mouse button on the desired server.

Figure 9 - Remote Server Selection Interface

5. (Optional) Select the *Dialout Strings* button to define a remote dialout location, such as an Interalia. In the Dialout Strings Definitions interface enter a phone number, menu codes, and any end codes necessary to update the remote system. Once this information is provided select the *Add* button to store the data. To edit a dialout string, double left mouse click on a string to pull it into the provided entry boxes. Make any changes, then select *add* to restore the data. For more information on dialout strings go to the end of this section.

Figure 10 - Dialout String Definitions Interface

6. Once steps 1-5 have been complete it is time to actually add this item to the IVR database. To do this select the left arrow button to the right of the scroll bar.

7. Repeats steps 2 - 6 to add additional products or continue with step 8.

8. Exit Database Manager by selecting the red **X** button.

Edit an Existing Product

1. Launch the Database Manager by selecting *Database Options* from the NWSIVR Controls interface - reference 8, figure 1.

2. In the Database Manager, double click a left mouse button to select a product from the list box. A product can also be selected with a single left mouse click and then select the right arrow key located to the right of the scroll bar.

3. At this point the selected product is pulled out of the database and ready for any changes. It is possible to change the phone number, message number, server information, or dialout codes. When all desired changes are complete go to step 4.

4. Place the item back into the IVR database by selecting the left arrow button located to the right of the scroll bar.

Remove a Product

1. Launch the Database Manager by selecting *Database Options* from the NWSIVR Controls interface - reference 8, figure 1.

2. In the Database Manager, double click a left mouse button to select a product from the list box. A product can also be selected with a single left mouse click and then select the right arrow key located to the right of the scroll bar.

3. At this point the selected product is pulled out of the database. To finalize the removal process select the *clear* button.

The Dialout String

The Dialout string is a list of functional characters and numbers navigating IVR to a location to play an audio product. There are three parts to a dialout string: Phone number, menu options, and end codes. The phone number is for the remote system being called, menu options are steps to navigate to the correct location/voice box to update with an audio product, and end codes are sent after a product is read to hangup a line (not all systems need end codes). A comma delimiter is used to pause between tones. Each comma represents one second of time.

Interalia Dialout String Example: ,1,5038611964+,,1676,,1,,7,+#,,413#,0,+

Phone number: ,1,5033811964   Note: Do not use a dash when defining a phone number
Menu Options: ,,1676,,1,,7,   Note: Navigate to voice box to play message.
      <Message will play here>
End Codes: #,,413#,0,   Note: Tones to send after message is played.

** The IVR software places a plus between the phone number, menu options, and dial codes to separate this information. DO NOT add a plus in your string.

4.9. File Processing - WatchDog

WatchDog processes incoming CRS formatted files dumped into *c:\crstav2.0\db\intmp*. The *stop/start WatchDog* button on the NWSIVR Controls interface will activate or deactivate this program. When active, the WatchDog software will run in a MS-DOS window initially minimized upon execution. Also, the window next to the *Stop/Start WatchDog* button will display the state of the program which is either <u>Offline</u> or <u>Online</u>.

> **Note:** Since WatchDog is executed in a MS-DOS window it is possible to indirectly shutoff this software by double clicking the X in the upper right or TCL icon in the upper left corner of the window. If this is done the WatchDog status window will remain in the *Online* state, even though it will truly be off. If this occurs simply click the *Start/Stop WatchDog* button twice to restart the process. This is also true if IVR were to crash or be rebooted while the IVR software was running.

4.10. View Database

Selecting View Database will provide a user friendly format of the IVR database. This is simply a way to display the NWSIVR database and has no operational value, outside of the actual display.

4.11. Record a Product Manually

1. Select *Record* on the NWSIVR Controls interface to open voice recorder - reference 11, figure 1

2. Select a product from the scroll bar list in the NWSIVR Product Recorder interface.

3. To start recording select:

4. To stop recording select:

5. If desired, verify recorded message before saving by selecting play:

-- Repeat steps 3 - 5 until you are happy with the recorded message, then continue onto step 6 .

6. To save message select :

> **Note:** Selecting save will transmit a recorded product to IVR database defined locations. Make sure of your selection.

7. After saving, the last recorded message will still be present. If you wish to make another recording you may do so by repeating steps 2 - 6. Otherwise continue with step 8.

8. To exit interface select:

4.12. Listen to Saved Audio Products.

1. Select *Audio Files* icon on the NWSIVR Controls interface to open audio player - reference 12, figure 1.

2. Open audio file by selecting:

3. With the mouse select desired product, then press the *open* button.

4. To play message select:

5. To stop message select:

6. To exit interface select :

4.13. **View & Edit Text Files**

View a Product
1. Select the *Text Files* icon on the NWSIVR Controls interface to open text editor - reference
   13, figure 1.
2. Double left mouse click on a desired product from scrolling list.

Product Editing
1. Load a desired product as described above. If not found in scrolling list then type the
   KEY name in the brown entry box marked *Selected Product.*
2. Make changes or add new text in the editor text space.
3. Select the *save* button to process any changes

> **Note**: The *clear* button will only clear selected entries. Any permanent changes
>   are handled by the *save* button.
>
>   Also, only key names defined in the NWSIVR database will be recognized for
>   processing. Therefore make sure any hand typed entries match a database item.
>   Products selected from the scrolling list are NWSIVR defined database items.

4.14. **Error Log**

The error log provides a centralized location to display errors which will help trouble shoot any
potential problems with NWSIVR.

4.15. **NWSIVR Database Backup**

Each database backup is named with a time/date stamp of when the *NWSIVR Database Backup*
button was selected. If a different name is desired, supply this name in the provided entry box.

4.16. **NWSIVR Database Recovery**

To recover a previously backup NWSIVR database, simply double click a left mouse button on
the desired backup file you wish to recover. Once a backup file is processed the current
database will be replaced, so be sure of your selection.

4.17. NWSIVR Database Backup Removal

Removing old backup files can be done by selecting the *Delete Old* button, then by double clicking a left mouse button on the file name you wish to remove. Another way would be to highlight the desired file then select the *delete* button.

5. SYSTEM STARTUP AND SHUTDOWN PROCEDURES

5.1. System Shutdown/Reboot

1. Shutdown the WatchDog software by selecting the *Stop/Start WatchDog* button found on the NWSIVR Controls interface. Although the status message will change right away the actual process may take a minute to shutdown. You can verify a correct WatchDog shutdown by looking for MS-DOS window with c:\crstav2.0\bin\processfiles.exe title. If this is found you need to wait for the process to finish. Typically this program will close in a couple seconds.

2. If open, close the NWSIVR Controls interface by selecting the red **X** at the bottom right of window. At this point any critical processes will be closed. If other programs are running you may shut them down at this point or just go to step 3 and let the operating system handle the closing of any other programs.

3. Execute system shutdown by selecting *Start*, *Shutdown*, select *the shutdown* radio box, then *ok*. Just as you would do on any other Microsoft machine.

Note: After shutdown is selected and if you are prompted to select *wait, end process, or cancel* due to a running program, select *end process* so the system can continue with shutdown.

5.2. System Startup

1. Enter login information for MS login screen (cap sensitive).

Note: After password verification system does load slow.

2. Start NWSIVR Controls interface by selecting *ADVcrsta.tcl* icon on the desktop.

Note: If an icon is not found on the desktop, the actual file location is *c:\crstav2.0\bin\ADVcrsta.tcl.* This program can then be launched through windows NT Explorer: **start -> programs -> windows NT Explorer**. In explorer open the *crstav2.0* directory, *bin* directory, and then double click on the *ADVcrsta.tcl* program to launch software.

---

3. Check WatchDog status. If <u>Offline</u>, click *Stop/Start WatchDog* button located on the NWSIVR Controls interface. After doing this make sure status is <u>Online</u> and then check for minimized MS-DOS window with with a window title *c:\crstav2.0\bin\processfiles.exe*.
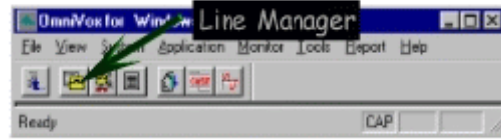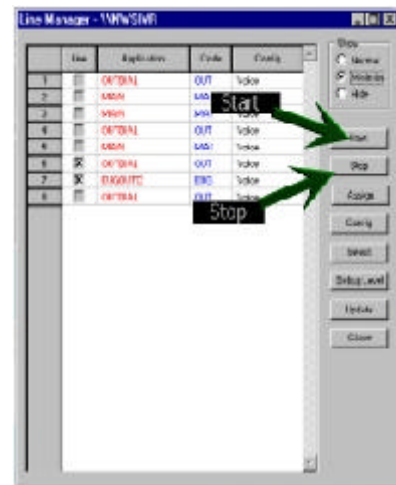

Figure 11 - OmniVox interface with line manager reference.

4. Make sure phone line software is active. Although phone line connections should activate automatically after a reboot it's a good idea to make sure this is the case. Select the *OmniVox Telephony Tools* button on the NWSIVR Controls interface. In the opened OmniVox interface select the second icon from left to right to open the *line manager* - see figure 11. Once the line manager software is open, press the *stop* button, then the *start* button - see figure 12.

5. At this point all the necessary processes should be running. It is ok to exit the line manager by selecting close and the OmniVox interface by selecting *file* on the menu bar, then *exit*.

6. PRODUCT INGESTING

Currently there are two types of files NWSIVR will recognize for processing, CRS formatted text files and standard multimedia wav files. New files should be placed in the c:\crstav2.0\db\intmp directory, which is where WatchDog looks for these items.

Figure 12 - Line Manager - Stop/Start reference

The best way to automatically populate NWSIVR with new CRS formatted text, is to modify the AWIPS transferNWR program to ftp products to IVR. Ftp_IVR is software that can do this by executing it within transferNWR. Check the NWSIVR web site by selecting the blue question mark in the upper right corner of the NWSIVR control panel for information on ftp_IVR.

7. ACUVOICE TEXT-TO-SPEECH TECHNOLOGY

7.1. Dictionary Utility

Although the AcuVoice software comes with a very robust dictionary, some words may still need to be added or adjusted for better clarity. To launch the main dictionary utility select *settings* then *TTS Voice Dictionary* from the NWSIVR Controls interface. From this utility adding, deleting, or viewing words in the dictionary is possible. Speakers will need to be attached to effectively carry out dictionary functions.

7.2. Add a Word to the Dictionary

Click the *Add Word* option from the main window menu to initiate the utility for adding new words to the dictionary - see figure 18.

To add a new word:

1. Type the new word in the *Word* entry box provided
2. Click the *Current* button to hear the current pronunciation (if available).
3. Advance to the *POSP* box and select the part of speech for this new entry
4. In the *Phonetic* box, type the word's phonetic encoding.
5. When satisfied with a pronunciation click *Add* to store the latest change to the Users Dictionary.
6. Click on the *OK* when finished with the *Add Word* utility.

7.3. Delete a Word From the Dictionary

Click the *Delete Word* option from the main window menu to initiate the utility for deleting words from the dictionary - see figure 19.

To delete a word:

1. Click on and highlight the word you wish to remove.
2. Click on the *Delete* button to remove this selected word.
3. Click on the *OK* button to return to the main dictionary utility window.

7.4. View Dictionary

Clicking the *View Dictionary* option from the main window menu will initiate the utility for viewing all words currently in the dictionary - see figure 20.

1. Use the scroll bar to move up or down revealing all dictionary words.
2. Click on the OK button to return to the main dictionary utility window.

7.5. Backup User Dictionary

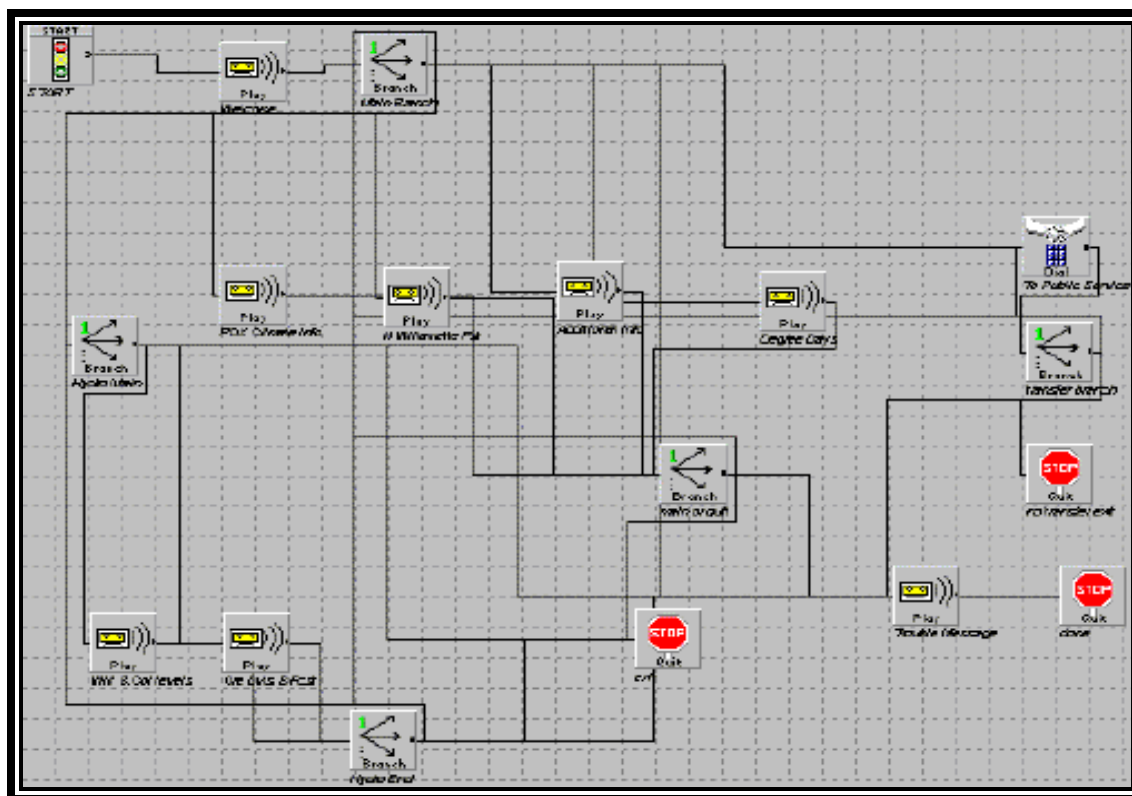It may be a good idea to back up your modified dictionary. This can be done by copying the four files listed below into a new location. The following files can be found at *c:\acuvoice\dictfls*.

Files to copy: - USERDICT.TXT
 - USERDICT.FLE
 - USERHASH.DVL
 - USERHASH.TAB

If it becomes necessary to reinitiate these backed up files simply copy all four files back to the *c:\acuvoice\dictfls* from your secure location.
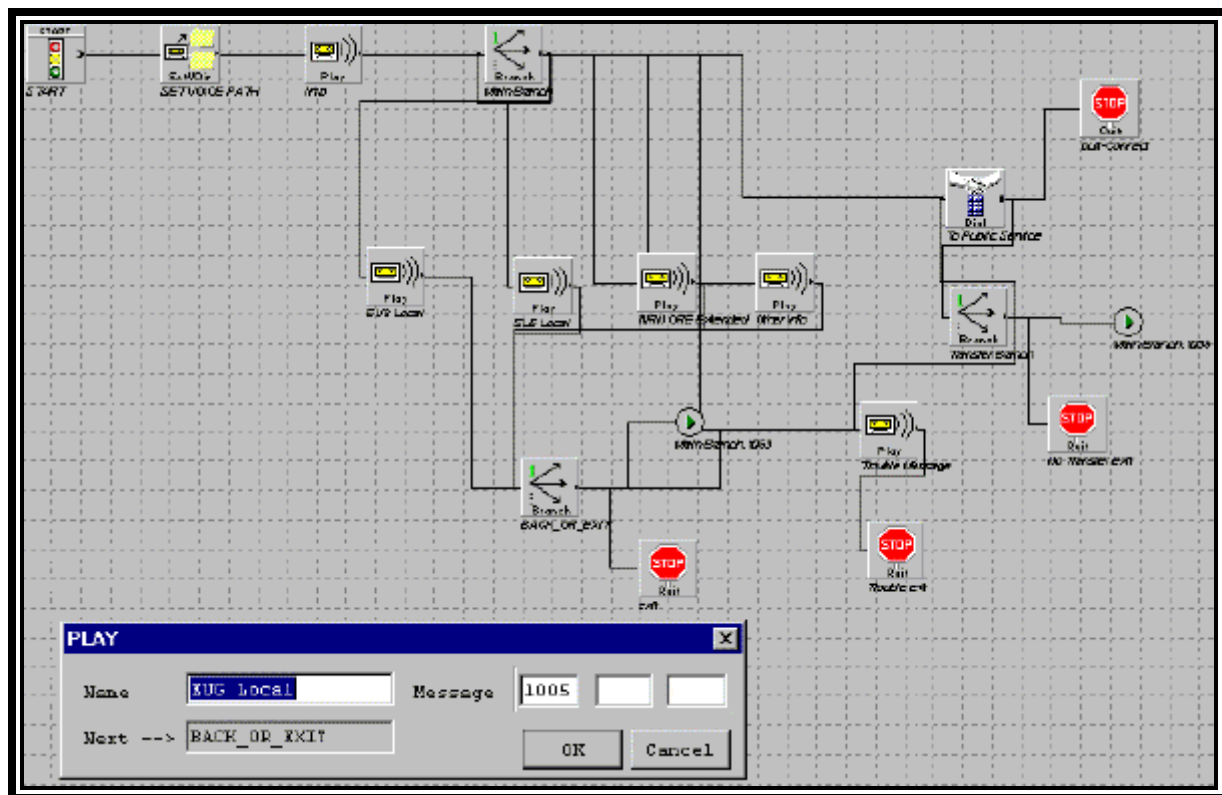
Figure 13 - Portland Oregon Phone Tree c:\usr\Apex\Appdata\Appgen\Main.app.dat

This image represents c:\usr\Apex\Appdata\Appgen\Main.app.dat phone tree created through the OmniVox software. The entire flow is defined by eight play, five branch, three quit and one dial icon combination. Of the eight play icons only three are product bins using converted audio files associated with CRS. The rest are canned messages providing navigational and general information to the caller. Each branch used in the call flow excepts DTMF tones provided by the caller for navigating through the menu. The three quit icons provide different means of releasing the caller from system. Each is associated to a different canned message explaining to the caller why they are being dropped. Finally the Dial icon forwards the caller to a live person in the public service unit.

The development capabilities of each phone tree is endless. This example is only one of many and reading the OmniVox User's Manual will provide all the necessary means of creating the configuration best suited for your office.

Appendix B

Figure 14 - Portland Oregon Phone Tree c:\usr\Apex\Appdata\Appgen\EUG_SLE.app.dat

This image represents c:\usr\Apex\Appdata\Appgen\EUG_SLE.app.dat phone tree created through the OmniVox software. This flow uses slightly more advanced tools to create the tree flow. Two major differences are the use of *setvdir* and the addition of a goto option. All applications that are not named MAIN.app.dat MUST use the *setvdir* function. This icon will direct the path to the correct location containing audio files used throughout the tree. The use of the goto option has no functional advantage over the first example, although it does provide a cleaner flow. The play window was opened by a right mouse click on the *EUG Local* play icon and reveals the icon name, next link in the flow, and the play message number (1005).

Appendix C

PDX Telephony Phone Tree Announcements

Welcome Message (9000):

Hello, thank you for calling the National Weather Service in Portland Oregon.

Trouble Message (9001):

We are sorry you are having trouble. Please try your call later.

No DTMF Message (9002):

Your entry was not understood. Please try again.

Closing Message (9003):

Thank you for calling the National Weather Service in Portland, Oregon. For more detailed information, check out our web page at http://nimbo.wrh.noaa.gov/portland.

Transfer Message (9004):

Please hold. Your call is being transferred to the next available meteorologist.

PDX Intro Message (9005):

If you would like river level information press 1, for yesterdays climate information for Portland press 2, for Northern Willamette Valley forecast including Clark county in southwest Washington press 3, for Portland degree day information press 4. For other sources of information press 5. If you would like to hear these options again press 6. If you don't have a touch-tone phone or need further assistance please stay on the line and your call will be transferred.

Hydrology Greeting (9006):

You have reached the Hydrology desk of the National Weather Service in Portland. If you would like river level information on the Willamette and Columbia rivers including the Portland/Vancouver harbor stage forecast, press 1. If you would like river stage and flow information on other Oregon rivers...Press 2.

Additional Weather Information (9007):

For complete weather information 24 hours a day, listen to NOAA Weather Radio Broadcasting on FM frequencies from 162.40 to 162.55 MHZ. For information by phone, call 503-243-7575 or 503-225-5555. If you live in the 541 area code you can dial 485-2000.

For Oregon highway conditions, call 1-800-997-6368. For Washington highway conditions, call 360-690-7100. For northern California highway conditions, call 916-842-4438.

Climate information can be obtained by calling the National Climatic Data Center at 704-271-4800, the State Climatologist at 541-737-5705, or the Western Regional Climate Center at 702-677-3106. If you have Internet capabilities, check out our home page at http://nimbo.wrh.noaa.gov/portland.

Thank you for calling.

EUG & SLE Intro Message (9008):

If you would like the local forecast for Eugene-Springfield and vicinity press 1. For the local

forecast for Salem and Vicinity press 2. If you would like the extended forecast for all of western Oregon press 3. For other sources of weather information press 4. If you don't have a touch-tone phone or need further assistance, please stay on the line and your call will be transferred.

Back to Main or Quit (9009):

  To return to the main menu press 1 or press 2 to exit the system.

Hydro Switch (9010):

  To return to the main menu press 1. To return to the hydro menu press 2 or press 3 to exit the system.

No Answer On Transfer (9011):

  Due to heavy calling flow, your call was not connected.

Busy Signal On Transfer (9012):

  We're sorry, all lines are busy.

Transfer Branch (9013):

  If you would like to try again press 1...to return to the main menu press 2...or to exit press 3.